

**THIRD REVIEW CONFERENCE OF THE  
STATES PARTIES TO THE  
CONVENTION ON PROHIBITIONS OR  
RESTRICTIONS ON THE USE OF  
CERTAIN CONVENTIONAL WEAPONS  
WHICH MAY BE DEEMED TO BE  
EXCESSIVELY INJURIOUS OR TO  
HAVE INDISCRIMINATE EFFECTS**

CCW/CONF.III/WP.9  
15 November 2006

Original: ENGLISH

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Geneva, 7-17 November 2006

**EXPECTED CIVILIAN DAMAGE AND THE PROPORTIONALITY  
EQUATION — TO WHAT EXTENT SHOULD THE MID TO  
LONGER TERM CONSEQUENCES OF EXPLOSIVE REMNANTS  
OF WAR BE TAKEN INTO CONSIDERATION IN THE  
PROPORTIONALITY ASSESSMENT<sup>1</sup>**

Prepared by the Asia Pacific Centre for Military Law, University of Melbourne, Australia,  
and presented at the request of the Coordinator on ERW

**I. Introduction**

1. In March 2006 the Asia Pacific Centre for Military Law prepared the *Report on States Parties' Responses to the IHL Questionnaire* ('the Report') for the working group on explosive remnants of war in the thirteenth session of the Group of Governmental Experts ('GGE') of the States Parties to the 1980 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects ('CCW').

2. The rule on proportionality was identified by 97 per cent of Respondent States as of relevance to the use of munitions that may result in explosive remnants of war ('ERW').<sup>2</sup> Such an overwhelming level of acknowledgement is indicative of the view that proportionality is a key obligation affecting States' decisions on target and weapons selection — including in relation to the choice of weapons likely to cause ERW.

3. A number of State responses highlighted the issue of whether a military commander is required to consider the expected longer term harm caused to the civilian population and civilian objects as a result of ERW when undertaking the proportionality assessment. This question remains a matter of debate internationally. Some government experts and legal scholars argue

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<sup>2</sup> Asia Pacific Centre for Military Law, *Report on State Parties' Responses to the Questionnaire*, March 2006, 17.

that long term effects cannot be taken into account because they are too remote and therefore incapable of assessment. On the other side of the debate other governmental experts, legal scholars, and international and non-governmental organisations argue the importance of factoring both the short and longer term effects of ERW into the proportionality equation because the harmful effects on the civilian population are foreseeable and have been demonstrated in successive conflicts to have devastating consequences.

4. Assessments of the application of the proportionality equation have taken on greater significance since the establishment of the International Criminal Court and the increasing scrutiny of the conduct of military operations. The issue is not so much whether the International Criminal Court will try military commanders for alleged violations of the proportionality equation but rather an increased international expectation that parties to a conflict will comply with International Humanitarian Law and calls for accountability in the face of perceived failures to comply with the law. Many States Parties to the Rome Statute have enacted implementing legislation to incorporate the crimes in the Statute into their own domestic criminal law and it is compliance with domestic criminal law obligations that is uppermost in the minds of national militaries. Even non-States Parties to the Rome Statute have domestic criminal law obligations with which their military must comply.

5. A number of responses to the IHL Questionnaire highlighted the need for further discussions on the issue of expected longer term harm and the proportionality equation. As a result, the Asia Pacific Centre for Military Law has been asked to prepare this paper examining the debate surrounding foreseeability and the rule on proportionality.

6. The Asia Pacific Centre for Military Law, University of Melbourne, Australia ('the Centre') gratefully acknowledges the financial support of the New Zealand Ministry of Foreign Affairs and Trade and the Australian Department of Defence in the preparation of this paper but wishes to state at the outset that the views expressed in this paper are those of the Centre alone and do not necessarily reflect the position of either the New Zealand or Australian Governments. The Centre is also grateful to the Geneva International Centre for Humanitarian Demining, and Landmine Action (UK) for their comments on a draft version of this paper. However the final paper does not necessarily reflect the views of either of these organisations.

## **II. Proportionality**

### **A. Understanding the rule on proportionality**

7. It is a basic rule of International Humanitarian Law that the parties to a conflict must ensure respect for, and the protection of, the civilian population and civilian objects in an armed conflict. Parties must at all times distinguish between the civilian population and combatants and between civilian objects and military objectives. Military operations must only be directed at military objectives. This basic rule is incorporated in Article 48 of Protocol I of 1977 Additional to the Geneva Conventions of 1949,<sup>3</sup> but also applies as a rule of customary international law to all parties to armed conflicts whether or not they are party to Additional

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<sup>3</sup> Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, opened for signature 8 June 1977, 1125 UNTS 3 (entered into force 7 December 1978) ('Additional Protocol I').

Protocol I. On the basis of this fundamental rule, the wilful targeting of civilians or civilian property in armed conflict is a war crime.

8. International Humanitarian Law allows attacks on military objectives but prohibits any attack which fails to discriminate between military objectives and civilian objectives. Such attacks are labelled 'indiscriminate' and include attacks: not directed at specific military objectives; which employ means or methods of combat which cannot be directed at specific military objectives; or which employ means or methods of combat producing effects otherwise prohibited by international humanitarian law. The prohibition on indiscriminate attacks is incorporated in Article 51(4) of Additional Protocol I but is also an accepted rule of customary international law. Again, the perpetration of an indiscriminate attack, like the wilful targeting of civilians and/or civilian property, also constitutes a war crime.

9. It is accepted as a matter of law that in directing attacks at legitimate military objectives, some incidental loss of civilian life and/or damage to civilian property may occur. In an attempt to impose limitations upon the level of acceptable incidental civilian suffering, international humanitarian law articulates a proportionality formula as the test to determine whether or not an attack is lawful. The formula is articulated as a prohibition on:

[A]n attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.

10. This proportionality rule is recognised as customary international law, and is reflected in the ICRC Customary Law Study.<sup>4</sup> It is codified in Article 51(5)(b) of Additional Protocol I, and repeated in Article 57(2). The CCW treaty itself recognises the proportionality obligation in Article 3(8) of Amended Protocol II in relation to the use of mines, booby-traps and other devices. Furthermore, the prohibition, with the additional requirement that the incidental loss be 'clearly' excessive, is also included in the Rome Statute of the International Criminal Court such that any attack which violates the rule constitutes a war crime for which perpetrators should be held criminally responsible.<sup>5</sup>

11. It is important to note that proportionality as a general principle arises in a number of different contexts, both in relation to the international legal regulation of the resort to military force (*jus ad bellum*) as well as in the international legal regulation of the conduct of military operations (*jus in bello*). For the purposes of this paper the focus is upon the articulation of the rule on proportionality as it relates to civilian damage incidental to an attack on a legitimate military objective. The rationale for this rule is to limit the suffering of the civilian population and does not apply to combatants or military objectives. To the extent that an attack is directed at military objectives with no expected loss of civilian life or damage to civilian property, this particular rule on proportionality is not applicable. That does not mean, however, that a military commander is entitled to use unlimited force. The basic rule that a party's right to choose methods or means of warfare is not unlimited applies in all situations.

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<sup>4</sup> See Rule 14 in Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law* (2005) Volume I: Rules, 46.

<sup>5</sup> Rome Statute of the International Criminal Court, opened for signature 17 July 1998, 2187 UNTS 3 (entered into force 1 July 2002).

**B. Applying the rule on proportionality**

12. The articulation of the rule on proportionality in a number of legal instruments clearly expresses an obligation upon military commanders to conduct a proportionality assessment when planning an attack. There is an additional requirement to cancel or suspend an attack if circumstances change since the attack was planned and it becomes apparent that the rule will be breached.<sup>6</sup>

13. The formulation of the proportionality rule incorporates a margin of appreciation in favour of military commanders. Commanders are not to be judged on the basis of an *ex post facto* assessment of the *actual* loss of civilian life and/or damage to civilian property weighed against the *actual* military advantage gained from the attack. Instead, the test to be applied is the *expected* loss of civilian life and/or damage to civilian property weighed against the *anticipated* military advantage. Military commanders have to reach their decisions on the basis of information that is available to them at the time of the attack.<sup>7</sup> Their decisions cannot subsequently be judged on the basis of information which comes to light after the attack has occurred.

14. The Al Firdus Bunker case illustrates the importance of the correct test for the rule of proportionality. The Al Firdus Bunker was identified by US forces as a legitimate military objective during the 1991 Gulf War. The US claimed that the bunker was camouflaged, its perimeters were protected by barbed wiring, and access points were guarded by armed sentries. On the basis of information collected by planners, the military commander made an assessment that the bunker was a legitimate military objective and, on application of the rule on proportionality, determined that the incidental damage to civilians would not be excessive in relation to the military advantage gained. The objective was bombed. It was subsequently and tragically discovered that, along with its military function, civilians had been using this bunker as sleeping quarters at night time and three hundred civilians were killed as a result of the attack.<sup>8</sup>

15. US authorities determined that there had been no violation of international humanitarian law because the information available at the time had allowed the military commander to make a reasonable assessment that the target was a legitimate military objective and that the expected loss of civilian life and/or damage to civilian property was not disproportionate to the expected military advantage. The lawfulness of the decision of the military commander to authorise the attack cannot be judged upon the actual loss of civilian lives resulting from the attack. The legal test is the *expected* loss of civilian life and, in the absence of any knowledge of the civilian use of the bunker, the military commander did not violate the rule of proportionality.

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<sup>6</sup> Additional Protocol I, article 57(2)(b). This is a rule of customary international law, and is therefore binding on States not party to Additional Protocol I.

<sup>7</sup> Algeria, Australia, Austria, Belgium, Canada, Egypt, Germany, Ireland, Italy, the Netherlands, New Zealand, Spain, and the United Kingdom have all made declarations to this effect.

<sup>8</sup> Judge Advocate General's School, US Army Charlottesville, *Operational Law Handbook* (2001) 9.

### **C. Proportionality and Explosive Remnants of War**

16. The rule on proportionality is usually cited in discussions relating to submunitions that fail to explode thereby creating an ERW problem.<sup>9</sup>

17. There are three ways in which ERW can be created: the abandonment of explosive ordnance; the failure of explosive ordnance to detonate on impact with the target; and explosive ordnance which is intended not to explode and remains operable by design. The latter category could include anti-personnel mines, naval mines, booby-traps and other similar devices.<sup>10</sup> The deployment of such weapons is subject to additional legal regulation and so the discussions of the ERW problem in the CCW context have not focused upon this particular category of ERW. Consequently, this paper will not consider the application of the rule on proportionality to attacks utilising such weapons. The first source of ERW mentioned here — abandoned explosive ordnance — is not used in a military attack and so is not subject to the rule on proportionality. When discussing the proportionality rule then, the discussion will focus exclusively upon the use of explosive ordnance in an attack in circumstances where some of the ordnance has failed to explode and, as a consequence, creates both immediate and longer term damage from ERW.

18. Military planners responsible for making decisions about the choice of weapons that are to be used must be aware of the character of the intended weapon, the amount of ordnance to be deployed and the expected consequences both of the weapons selection and the number or amount of weapons to be deployed. Some militaries engage in modelling of expected incidental civilian damage in order to provide information to assist military commanders to comply with the rule of proportionality. Whether or not such modelling routinely occurs, the critical question here is the extent to which military commanders are required to factor into the proportionality equation the expected incidental civilian damage from that part of the deployed ordnance which fails to explode.

### **III. Arguments against taking into account mid to longer term consequences of ERW**

19. In 2002 Professor Christopher Greenwood suggested that it is only the immediate risk from ERW which can be an issue in the proportionality equation because there are too many factors which are incapable of assessment at the relevant time. He asserted that the proportionality test has to be applied on the basis of the information available to the military commander at the time of the attack:

If, for example, cluster weapons are used against military targets in an area where there are known to be civilians, then the proportionality test may require that account be taken both of the risk to the civilians from submunitions exploding during the attack and of the risk from unexploded submunitions in the hours immediately after the attack. It is an entirely different matter, however, to require that account be taken of the longer-term risk posed by ERW, particularly of the risk which ERW can pose after a conflict has ended or after civilians have returned to an area from which they had fled. The degree of that risk turns on too many factors which are incapable of assessment at the time of the attack, such as when and whether civilians will be permitted to return to an areas, what steps the

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<sup>9</sup> Louis Maresca, 'Cluster Munitions: Moving Toward Specific Regulation' (2006) 4 UNIDIR *Disarmament Forum*, 29.

<sup>10</sup> This is not intended to be an exhaustive list.

party controlling that area will have taken to clear unexploded ordnance, what priority that party gives to the protection of civilians and so forth. The proportionality test has to be applied on the basis of information reasonably available at the time of the attack. The risks posed by ERW once the immediate aftermath of an attack has passed are too remote to be capable of assessment at that time.

20. William Boothby clarifies Greenwood's argument stating that '[h]e is pointing out that the commander has to base his decision on the information available to him, that risks posed by ERW in the immediate aftermath of an attack in areas where there are known to be civilians may also need to be considered, but that thereafter those risks are too remote to be capable of assessment at that time'.<sup>11</sup>

21. Boothby further argues that the attacking commander will conduct his proportionality assessment with regard to 'tangible factors' such as:

[T]he military advantage to be anticipated from the attack ... the damage to be expected to the civilian buildings in the village and their contents, so far as is known ... whether any civilian persons are known to have stayed in the village and the losses they may be expected to suffer during and in the immediate aftermath of the attack, including from unexploded munitions.

22. He argues that the existence, and extent, of any longer term ERW risks cannot be included in the equation because they depend on variables such as: whether the civilian population wishes to return early to the village; whether this early return will be permitted; whether civil authorities can and do influence the behaviour of the population; what proportion of the population will return and precisely when; whether unexploded ordnance ('UXO') will be marked, and cleared by the party in control of the territory in conformity with Protocol V norms before such return is permitted; whether the civilian population will receive ERW risk education as contemplated in Protocol V; whether the civilian population will heed and implement that advice; and whether particular members of the civilian population will have contact with 'dud' munitions so as to cause them to explode.<sup>12</sup>

23. It is willingly conceded here that military commanders cannot be required to take into account the 'unknowable' — that only that which can be expected as a consequence of a particular attack can be included in the proportionality equation. Any unexpected consequences of an attack obviously cannot be factored into the equation. While there is then no fundamental disagreement with Greenwood and Boothby, the question is whether it is possible to be as absolute as they appear to be in dismissing expected longer term consequences for the civilian population of weapons which cause ERW when assessing proportionality.

24. In discussing proportionality in relation to the rule on feasible precautions Boothby observes that:

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<sup>11</sup> William H. Boothby, 'Cluster Bombs: Is There a Case for New Law?' (HPCR Occasional Paper Series No 5, Program on Humanitarian Policy and Conflict Research, Harvard University, Fall 2005) 30.

<sup>12</sup> William H. Boothby, 'Cluster Bombs: Is There a Case for New Law?' (HPCR Occasional Paper Series No 5, Program on Humanitarian Policy and Conflict Research, Harvard University, Fall 2005) 31.

Expectation, on which this rule centres, is not the same as reasonable foreseeability. An outcome may be foreseeable but undesired. Precautions may be taken with a view to that outcome being prevented, but it may remain a possibility, even though undesired and indeed unlikely. It must therefore be regarded as reasonably foreseeable, but is definitely not the expected outcome.

25. Boothby seems to equate outcomes that are ‘reasonably foreseeable’ with those that are ‘possible’, though undesired and unlikely. In contrast, his interpretation of ‘expected’ outcomes seems to be those which are both desired and likely. This paper certainly agrees that the meaning of the ‘expected’ incidental loss of civilian life or damage to civilian property weighed against the ‘anticipated’ concrete and direct military advantage are the critical issues in this debate.

#### **IV. Arguments for taking into account mid to longer term consequences of ERW**

##### **A. The meaning of ‘expected’ civilian damage**

26. Both Greenwood and Boothby identify factors which they suggest would be incapable of assessment by a military commander at the relevant time. As mentioned above, these include factors such as whether civilians will be prevented from entering the area, and whether clearance of the UXO will take place in line with Protocol V.

27. A military commander may not have precise answers to these questions at the time he/she has to decide whether or not to authorise an attack. However the commander must take into account the information available to him/her in order to make a reasonable judgment. Charles Garraway, writing of the rule on proportionality, has suggested that ‘there is no mathematical formula. It requires a good faith assessment based on the information from all sources which is reasonably available to [the commander] at the relevant time’.<sup>13</sup> Whenever the use of weapons likely to cause ERW is contemplated in residential areas or in areas otherwise known to be frequented by the civilian population, assessments of expected civilian damage ought to take account of the consistent conclusion of numerous reports and studies carried out by international and non-governmental organisations, many of which include data on percentages of munitions which fail to explode and the effect of such unexploded ordnance on civilian populations. This wealth of information ought to not only project the expected civilian damage from the proportion of weapons which are likely to explode on impact, but also the expected civilian damage from the proportion of munitions which are expected to fail to explode. Obviously the greater the amount of ordnance used, the greater the number of munitions (or submunitions) which will fail to explode, the greater the ERW problem resulting from an attack and the greater the threat to the civilian population in the vicinity of the attack.

28. In its discussion of the rule on proportionality the UK Manual of the Law of Armed Conflict states that:

In deciding whether an attack would be indiscriminate, regard must also be had to the foreseeable effects of the attack. The characteristics of the target may be a factor here.

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<sup>13</sup> Charles Garraway, *How Does Existing Law Address the Issue of Explosive Remnants of War?* CCW/GGE/XII/WG.1/WP.15 (15 December 2005).

Thus if, for example, a precision bombing attack of a military fuel storage depot is planned but there is a foreseeable risk of the burning fuel flowing into a civilian residential area and causing injury to the civilian population which would be excessive in relation to the military advantage anticipated, that bombardment would be indiscriminate and unlawful, owing to the excessive collateral damage.<sup>14</sup>

29. With this guidance in mind, it could be argued that some of the factors ‘incapable of assessment’ as described by Greenwood and Boothby would also be present in this scenario. Factors such as what proportion of the civilian population will return and when; and whether some or all of the burning fuel might be extinguished before it reaches the residential area could also vary in this particular example. However this scenario is provided in the Manual on the Law of Armed Conflict as an example of an attack that could be ‘indiscriminate and unlawful’. Interestingly, the Manual utilises the language of ‘foreseeable risks’ as the test for expected incidental civilian damage and not the language preferred by Boothby — that the effects are both ‘desired and likely’.

30. If Boothby is correct that ‘expected’ civilian damage must be more than that which is a mere possibility and only incorporates that which is ‘desired and likely’, the possibility exists for military commanders to avoid responsibility for their decisions on the basis that the effects of a particular attack were simply undesired. There is a danger here in raising the bar of responsibility too high. If ‘expected’ means more than that which is a mere possibility, it surely also means something less than that which is intended. In criminal law parlance one speaks of recklessness where the alleged perpetrator does not intend a particular result but is recklessly indifferent as to its occurrence. This is a different standard of criminal responsibility than the lower threshold required for negligence because recklessness is still based upon the subjective awareness of the individual perpetrator. Negligence, by contrast, is based upon the more objective criterion of ‘reasonable foreseeability’. A military commander may not want to see particular results flow from the choice of weapons and the selection of specified targets but responsibility does not only relate to what the individual commander hoped for. Instead, responsibility also extends to include expected consequences to which the commander was recklessly indifferent.

## **B. Expected longer term military advantage**

31. Military planners and commanders regularly take into account not just the expected short-term military advantage but also the longer term military advantage. This tendency was demonstrated in the recent conflict in southern Lebanon. According to the Report to the UN Human Rights Council of the members of the Mission:

One government official acknowledged that cluster bombs were used in part to prevent Hezbollah fighters from returning to the villages after the ceasefire.<sup>15</sup>

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<sup>14</sup> UK Ministry of Defence, *The Manual of the Law of Armed Conflict* (2006) para 5.33.4.

<sup>15</sup> United Nations General Assembly, Human Rights Council, Report of the Special Rapporteur on extrajudicial, summary or arbitrary executions, Philip Alston; the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Paul Hunt; the Representative of the Secretary-General on human rights of internally displaced persons, Walter Kälin; and the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, Miloon Kothari, Mission to Lebanon (7-14 September 2006), UN Doc A/HRC/2/7, paras. 55 and 56.

32. The deliberate choice of cluster munitions on the basis of an expected dud rate which will leave sufficient numbers of unexploded submunitions so as to deny enemy combatants access to the target area may well produce an expected concrete and direct military advantage. That expected advantage is a mid to longer term advantage. It is not an advantage expected from the immediate results of the attack but subsequent to it as a consequence of those submunitions which fail to explode. Surely then, in undertaking the requisite proportionality assessment, the expected mid to longer term civilian damage must also be taken into account. The military commander must expect that some civilian residents of the target area will attempt to return to their villages and to re-work their agricultural plots and that incidental civilian damage will inevitably occur as contact is made with unexploded submunitions. The proportionality assessment may well be that the expected military advantage outweighs the expected civilian damage. But the important issue here is that the expected civilian damage must be taken into account — that it is unacceptable for the expected military advantage to be based on a longer timeframe while limiting the expected quantification of civilian damage only to the immediate effects of the attack itself.

33. According to the Report to the UN Human Rights Council of the members of the Mission:

As these [cluster bomb] sites were often located in civilian built up or agricultural areas the long term effects of these weapons on the civilian population should have been obvious.<sup>16</sup>

34. Upon ratification of Additional Protocol I many States made declarations of interpretation in relation to Articles 51-58 inclusive to the effect that ‘the military advantage anticipated from an attack is intended to refer to the advantage anticipated from the attack considered as a whole and not only from isolated or particular parts of the attack’.<sup>17</sup> It may well be understandable for militaries to interpret the anticipated concrete and direct military advantage broadly but to take a restrictive approach to the ‘expected incidental loss of civilian life, injury to civilians, damage to civilian object or a combination thereof’.<sup>18</sup> Appealing though this interpretative approach may be, nothing in the wording of the proportionality formula itself supports the approach. To the extent that mid to longer term civilian damage resulting from an attack is expected, such damage should be taken into account in the application of the proportionality equation just as the campaign-wide military advantage is.

35. The notion that UXO has long-term deleterious consequences for a civilian population is already well known and an accepted principle for all States Parties to the Ottawa Treaty. In the relevant part of the Preamble to that treaty, States Parties are:

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<sup>16</sup> United Nations General Assembly, Human Rights Council, Mission to Lebanon (7-14 September 2006), UN Doc A/HRC/2/7, paras 55 and 56.

<sup>17</sup> This particular wording is taken from the Italian Statement of Interpretation to its Ratification of Additional Protocol I & II on 27 February 1986 printed in Adam Roberts and Richard Guelff (eds), *Documents on the Laws of War* (2000) 506-7.

<sup>18</sup> Virgil Wiebe, ‘The Drops that Carve the Stone: State and Manufacturer Responsibility for the Humanitarian Impact of Cluster Munitions and Explosive Remnants of War’ (Legal Studies Research Paper Series, University of Thomas School of Law, 2004) 14.

Determined to put an end to the suffering and casualties caused by anti-personnel mines, that kill or maim hundreds of people every week, mostly innocent and defenceless civilians and especially children, obstruct economic development and reconstruction, inhibit the repatriation of refugees and internally displaced persons, and have other severe consequences for years after emplacement.<sup>19</sup>

36. The Geneva International Centre for Humanitarian Demining has characterised this part of the Preamble as reflective of States Parties' implicit understanding that 'proportionality extends over time'.<sup>20</sup>

37. It is not suggested here that the expected mid to longer term civilian damage will automatically or inevitably be excessive in proportion to the anticipated military advantage. Instead the argument here is that in applying the proportionality equation, the expected longer term effects as well as the expected immediate and short-term effects on the civilian population ought to be taken into account.

38. Over the past few years, since the issue of ERW has been under discussion, international and non-governmental organisations have been conducting research into the deleterious effects on the civilian population of ERW, in particular cluster munitions. There now exists a wealth of information to substantiate a direct correlation between numbers of munitions deployed, dud rates and the loss of civilian life and/or damage to civilian property.

## **V. Field data on the mid to longer term effects of ERW**

39. It is the Centre's view that data from past conflicts helps inform the likelihood of future effects for the application of the proportionality assessment. Decisions about expected harm to civilians or damage to civilian objects from weapons likely to cause ERW ought to include consideration of the effects of such weapons in the past.

40. International and non-governmental organisations have undertaken extensive research into the harm to civilians caused by weapons that create ERW and into examining the factors which determine this harm.

41. The United Nations Institution for Disarmament Research ('UNIDIR') for example has concluded that:

Concerns remain about the adequacy of existing international humanitarian law to sufficiently deal with problems associated with the use of cluster munitions. There are increasing calls from civil society, non-governmental organisations and international organisations to do something about the humanitarian impact of cluster munitions, and there are actions being taken by states. This has been accompanied by a growing body of

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<sup>19</sup> Paragraph 1 of the Preamble, Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of and on their Destruction, opened for signature 18 September 1997, 36 ILM 1507 (entered into force on 1 March 1999) ('*The Ottawa Land Mines Convention*').

<sup>20</sup> GICHD Argument, taken from: GICHD, 'Report on States Parties' Responses to the Questionnaire, International Humanitarian Law & Explosive Remnants of War: A Critique by the Geneva International Centre for Humanitarian Demining' 1 March 2006, 2.

literature of the short- and long-term effects of cluster munition use on civilian populations.<sup>21</sup>

42. A number of studies have analysed data from multiple conflicts which consistently demonstrated the dangers to civilians from ERW. These reports have analysed data from conflicts including those in Afghanistan, Albania, Bosnia and Herzegovina, Cambodia, Chad, Chechnya/Russian Federation, Croatia, Eritrea, Ethiopia, Iraq, Kosovo, Kuwait, Lao Peoples Democratic Republic, Montenegro, Morocco, Saudi Arabia, Serbia, Sierra Leone, southern Lebanon, Sudan, Syria, Tajikistan, and Vietnam.<sup>22</sup> A common conclusion from each of these reports is the inevitability of civilian damage from large numbers of unexploded submunitions deployed in residential or agricultural areas.

43. There are invariably different circumstances prevailing in relation to specific military attacks in each of the conflicts listed above. It is also true that dud rates vary even for the same category of weapon, let alone for different weapons. For example UNIDIR has reported that:

[T]he United Kingdom Explosive Ordnance Disposal (EOD) unit of the Multi-National Brigade (Centre) found that the failure rate of BLU97 was 7.1% and BL755 submunitions was assessed at 11.8%. In a reply to a written question in the British Parliament the failure rate of BL755 was given at 6%. Failure rates for BLU97 and BL755 submunitions have also been put at 20% in other studies, while in Kuwait the failure for the MK118 was as high as 30-40%, and while in Kosovo the overall failure rate for all types of cluster submunitions has been given at 5-30%. In Albania the overall failure rate of NATO submunitions was between 20-25% (leaving approximately 30-60 unexploded bomblets per munition depending upon the type), and between 30-35% for Yugoslavian (Serbian) munitions (leaving approximately 80-100 unexploded bomblets per munition. It should be noted that, when questioned, deminers in Albania were extremely reluctant to specify failure rates of cluster submunitions.<sup>23</sup>

44. Despite the different circumstances prevailing in different conflicts and the variation in dud rates of particular submunitions there are commonalities in every study. Civilian damage inevitably flows from the unexploded submunitions which are the constant legacy of extensive use of submunitions in residential or agricultural areas. The recent use of cluster munitions in

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<sup>21</sup> United Nations Institute for Disarmament Research, Rosy Cave, Anthea Lawson and Andrew Sherriff, 'Cluster Munitions in Albania and Lao PDR: The Humanitarian and Socio-Economic Impact', UNIDIR 2006, 2.

<sup>22</sup> See Handicap International, 'Fatal Footprint: The Global Human Impact of Cluster Munitions' Preliminary Report, November 2006; Human Rights Watch, 'Cluster Munitions a Foreseeable Hazard in Iraq' Human Rights Watch Briefing Paper, March 2003; Thomas Nash, 'Foreseeable Harm: The Use and Impact of Cluster Munitions in Lebanon: 2006' Landmine Action (UK) Report, October 2006; Human Rights Watch, 'First Look at Israel's Use of Cluster Munitions in Lebanon in July – August 2006' (Briefing Paper presented by Steve Goose to the 15th Session of the Convention on Conventional Weapons Group of Governmental Experts, Geneva, 30 August 2006); Human Rights Watch, 'Cluster Munitions: Measures to Prevent ERW and to Protect Civilian Populations' (Memorandum to Delegates to the Convention on Conventional Weapons Group of Governmental Experts on Explosive Remnants of War, Geneva, 10-14 March 2003); Landmine Action (UK), 'Explosive Remnants of War: Unexploded Ordnance and Post-Conflict Communities (2002); Richard Moyes and Thomas Nash, 'Cluster Munitions in Lebanon' Landmine Action (UK) Report (2005).

<sup>23</sup> United Nations Institute for Disarmament Research, Rosy Cave, Anthea Lawson and Andrew Sherriff, 'Cluster Munitions in Albania and Lao PDR: The Humanitarian and Socio-Economic Impact', UNIDIR 2006, 10. This information was also confirmed by Richard Moyes from Landmine Action (UK) in Comments from Richard Moyes, *Testing of M85 Submunitions*, August 2006.

southern Lebanon illustrates the harsh reality. Reports suggest that unexploded submunitions have densely contaminated residential areas and agricultural land, increasing the incidence of civilian injury and loss of life.

## VI. Conclusion

45. Although the focus in this paper has been on expected civilian damage in the proportionality equation it is not wished to create the impression that other rules of IHL are irrelevant to the use of weapons likely to cause ERW. As identified by Respondent States to the questionnaire and discussed extensively in an earlier report<sup>24</sup> the rule of distinction, the prohibition on indiscriminate attacks, the obligation to take precautions in attack, the obligation to protect the environment from widespread, long term, and severe damage, and the prohibition on the use of weapons that cause superfluous injury or unnecessary suffering are also extremely important legal obligations.

46. It is the Centre's view that some civilian damage is inevitable when those weapons known to have a significant failure (dud) rate are deployed against residential or agricultural areas. This assertion is consistently supported by all data collected from past conflicts. Although precise numbers of munitions or submunitions which will fail to explode cannot be known and precise numbers of civilian deaths and civilian casualties cannot be predicted, it does not follow that civilian damage from UXO is unexpected. Damage to civilian property and civilian deaths will inexorably flow from the use of such weapons and must be taken into account in the proportionality equation.

47. The most recent example of the inevitability of civilian damage from UXO is continuing to occur in Southern Lebanon. The Centre agrees with one conclusion of the members of the Mission to Lebanon and Israel in their recent report to the UN Human Rights Council that the deleterious impact on the civilian population from unexploded submunitions in southern Lebanon was to be expected:

The justification given...for the use of cluster bombs is that they were the most effective weapon against Hezbollah rocket launch sites. The argument is, in the abstract, compatible with a military rationale for the use of anti-personnel cluster bombs, as the radius of damage extends to the size of a football field and thus is able to neutralize mobile rocket launchers....Israel could not reasonably have been ignorant of the fact that the submunitions dispersed by cluster munitions have a high failure (dud) rate. In effect, then, the decision was taken to blanket an area occupied by large numbers of civilians with small and volatile explosives.<sup>25</sup>

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<sup>24</sup> Asia Pacific Centre for Military Law, *Report on State Parties' Responses to the Questionnaire*, March 2006.

<sup>25</sup> United Nations General Assembly, Human Rights Council, Mission to Lebanon (7-14 September 2006), UN Doc A/HRC/2/7.